

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

|                                       |   |                     |
|---------------------------------------|---|---------------------|
| In the Matter of                      | ) |                     |
|                                       | ) |                     |
| Former Nextel Communications, Inc.    | ) |                     |
| Upper 700 MHz Guard Band Licenses     | ) | WT Docket 06-169    |
| and Revisions to Part 27 of the       | ) |                     |
| Commission's Rules                    | ) |                     |
|                                       | ) |                     |
| Development of Operational, Technical | ) | WT Docket No. 96-86 |
| and Spectrum Requirements for         | ) |                     |
| Meeting Federal, State and Local      | ) |                     |
| Public Safety Communications          | ) |                     |
| Requirements Through the Year 2010    | ) |                     |

**REPLY COMMENTS OF LUCENT TECHNOLOGIES, INC.**

Pursuant to Section 1.415 of the rules of the Federal Communications Commission ("Commission"),<sup>1</sup> Lucent Technologies, Inc. ("Lucent") respectfully submits the instant reply comments in the above-captioned proceeding. Lucent commends the Commission for considering modifications to the existing 700 MHz public safety band plan to increase spectral efficiencies by consolidating and separating narrowband channels and data channels, *i.e.*, a 6+6 band plan. As set forth more fully herein, there is broad consensus among commenters in this proceeding that the benefits of a 6+6 band plan greatly outweigh both the costs associated with reprogramming existing radio equipment and any challenges

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<sup>1</sup> 47 C.F.R. § 1.415.

relating to international coordination issues. Lucent urges the Commission to act expeditiously to adopt a 6+6 public safety band plan before there is additional reliance on the existing band plan by the public safety community. Lucent further notes that adoption of a 6+6 band plan does not require the Commission to revise the commercial C and D blocks of the 700 MHz band (“C & D Blocks”). In fact, any revisions to the C & D Blocks are likely to impede the Commission’s ability to meet its statutory deadline for auctioning spectrum recovered in the transition to digital television.

**I. THERE IS BROAD CONSENSUS AMONG COMMENTERS THAT THE BENEFITS GAINED BY RECONFIGURING THE PUBLIC SAFETY PORTION OF THE 700 MHz BAND OUTWEIGH THE COSTS AND CHALLENGES OF RELOCATING NARROWBAND VOICE OPERATIONS**

Comments filed in the instant proceeding demonstrate strong support among public safety entities,<sup>2</sup> equipment manufacturers,<sup>3</sup> and other interested parties<sup>4</sup> to

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<sup>2</sup> See, Comments of the Association of Public-Safety Communications Officials-International, Inc. (“APCO Comments”), at 4 (encouraging FCC to consider reconfiguration if costs and coordination issues are resolved); Comments of National Public Safety Telecommunications Council, at 7 (“NPSTC Comments”) (stating that “[t]he Access Spectrum/Pegasus proposal is meritorious” assuming the cost and coordination issues are resolved); Comments of the Region 24 (Missouri) 700 MHz Regional Planning Committee (“Region 24 Comments”), at 3 (supporting 6+6 reconfiguration “because of the substantial benefits it offers public safety agencies for today and tomorrow’s needs”).

<sup>3</sup> See, *e.g.*, Comments of Ericsson Inc. (“Ericsson Comments”); Comments of Motorola, Inc. (“Motorola Comments”).

<sup>4</sup> Comments of CTIA – The Wireless Association (“CTIA Comments”), at 4 (“CTIA believes that the proposal to consolidate narrowband channels in the upper portions of the public safety blocks warrants further consideration . . .”); Comments

reconfigure the public safety portion of the 700 MHz band plan to aggregate the narrowband channels to one end of the band, *i.e.*, a 6+6 band plan. Lucent continues to support this proposal because, as demonstrated in Lucent's comments ("PS700 Comments") in the Commission's rulemaking on broadband communications in the 700 MHz public safety band, a 6+6 band plan would reduce the amount of spectrum that is required to be attributed to guard bands and thus increase overall spectrum efficiency.<sup>5</sup> In addition, a 6+6 band plan would allow consideration of multiple broadband technologies for use in the 700 MHz band.

Lucent is sensitive, as is the Commission, to the costs and challenges of reconfiguring the narrowband voice channels. However, as demonstrated by comments filed in the instant proceeding, Lucent believes that these challenges are not insurmountable and, on balance, the public interest benefits gained by reconfiguring the public safety portions of the 700 MHz band outweigh the costs of such reconfiguration.

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of Radiofone Nationwide PCS, L.L.C. ("Radiofone Comments") (supporting plans to make more efficient use of 700 MHz spectrum, provided that rights of incumbent licensees are protected); Comments of Access Spectrum, LLC and Pegasus Communications Corporation ("Access/Pegasus Comments").

<sup>5</sup> See Reply Comments of Lucent Technologies, Inc., WT Docket 96-86 (filed July 6, 2006), at 17-20 ("PS700 Comments"). See also Region 24 Comments, at 4 (explaining that reconfigured band plan will result in "additional spectrum in the 700 MHz public safety allocation, greater spectrum efficiency by reduction of guard bands within 700 MHz, opportunities for Public Safety/Critical Infrastructure entities to jointly develop interoperability capabilities, additional public safety flexibility implemented as necessary within each community to sufficiently protect its narrowband allocation and the ability to enter into spectrum sharing public-private partnerships with commercial entities").

**A. The Costs to Retune Radio Equipment Are Lower Than Initially Anticipated and Should Not Prevent the Commission From Adopting a 6+6 Band Plan**

In its PS700 Comments, Lucent noted its belief that the costs of retuning equipment pales by comparison to the potential benefits that can be achieved via a 6+6 700 MHz band plan.<sup>6</sup> Specifically, Lucent stated that there has been relatively little deployment of narrowband equipment in the 700 MHz public safety band to date and that retuning existing equipment likely could be accomplished through a software upload.<sup>7</sup>

Comments filed in the instant proceeding confirm Lucent's earlier belief.<sup>8</sup> Public safety entities, manufacturers, and A and B block 700 MHz licensees have been working diligently to resolve cost issues relating to reconfiguration of the 700 MHz public safety band and have concluded that the costs of deploying 700 MHz systems to operate on a 6+6 band plan are "modest compared to the potential benefits" of a revised band plan.<sup>9</sup> Indeed, many commenters that had previously

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<sup>6</sup> See PS700 Comments, at 19-20.

<sup>7</sup> *Id.*

<sup>8</sup> See APCO Comments, at 2-3 (discussing Motorola's recent statements regarding the cost to reprogram dual-band radios currently deployed and noting that public safety entities should not bear the cost of reprogramming); NPSTC Comments, at 7-8; Ericsson Comments, at 14 (noting that cost issues "can be resolved expeditiously" because the "costs and work involved in moving and consolidating the narrowband allocations will be relatively minimal"); Motorola Comments, at 9-12 (explaining the relatively small costs of reprogramming currently-deployed radios).

<sup>9</sup> See NPSTC Comments, at 2 (noting that interested parties are working to resolve cost issues); Access/Pegasus Comments, at 14 (stating that cost issues are

cited retuning costs as an insurmountable obstacle now concede that such costs are significantly less than initially anticipated.<sup>10</sup> For example, Motorola has determined that mobile devices currently operating on the existing 700 MHz band plan can be modified by code plug programming to conform with 6+6 band plan without requiring costly changes in hardware.<sup>11</sup> Moreover, commenters agree that most deployed dual-band radios are not, in fact, currently programmed to operate on the existing 700 MHz band.<sup>12</sup> Such radios would need to be programmed prior to commencing operations on the existing 700 MHz band, just as they would need to be programmed to operate on a modified band plan. Accordingly, there is no incremental expense to tune these radios to operate on a 6+6 band plan. In sum, the Commission has before it an adequate record to conclude that the costs to

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being addressed through extensive work among public safety users, manufacturers and licensees); Report by 700 MHz Technical Working Group, at 7-8, 17 (“TWG Report”) (concluding that (i) the cost to reprogram deployed infrastructure will be minimal given the “small number of sites and the relatively nominal effort associated with reprogramming base station radios;” and (ii) there is no incremental cost to program dual-band radios that are deployed but not yet operational in the 700 MHz band); Motorola Comments, at i (“the minimal costs associated with implementing [a 6+6 band plan] at this time are outweighed by the clear benefits”).

<sup>10</sup> See Motorola Comments, at 9 (noting that, although Motorola was initially concerned that the costs for consolidating the narrowband channels could escalate into the tens of millions of dollars, after studying the issue, Motorola believes that the cost of the transition should be relatively small); NPSTC Comments, at 8 (“The costs of moving the narrowband block [to a 6+6 configuration] appear to be significantly less than originally noted.”); Access/Spectrum Comments, at 16-17 (stating that it has conducted due diligence and expects that costs will not be insignificant but will be manageable).

<sup>11</sup> Motorola Comments, at 10; *see also*, TWG Report, at 6-7.

<sup>12</sup> See, e.g., Motorola Comments, at 10; TWG Report, at 7.

reprogram already-deployed equipment, even when combined with the time spent by public safety entities developing their regional 700 MHz plans, are minimal and do not outweigh the significant benefits conferred by a 6+6 band plan.

**B. International Coordination of a 6+6 Band Plan Is Manageable and Negotiations Relating to Such Coordination Already Are Underway**

International coordination issues should not prevent the Commission from adopting a 6+6 band plan. As several commenters note, interested parties—including the National Public Safety Telecommunications Council, the State of New York, and the Association of Public-Safety Communications Officials-International, Inc.—have been working to resolve any international coordination concerns that might arise if the current 700 MHz band plan is revised.<sup>13</sup> These parties expect to favorably resolve any coordination issues. Moreover, as the 700 MHz Technical Working Group (“TWG”) observes, the existing agreement with Canada “would have to be renegotiated regardless of the plan adopted to introduce broadband technology

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<sup>13</sup> *See* APCO Comments, at 3 (“As to the Canadian border issue, we understand that a task force of interested parties has been working diligently on that problem, and that a viable solution may be forthcoming.”); NPTSC Comments, at 9 (“NPSTC notes that several interests, including its representatives and those of New York State, are examining [international coordination] issues in an effort to bring about a favorable resolution.”); Region 24 Comments, at 5 (“We understand that [international coordination] issues have been vetted through both the public safety user community and the manufacturers and are being addressed. Subsequently, we do not expect that these obstacles will hinder the adoption of [a 6+6 band plan].”); Access/Spectrum Comments, at 17 (noting that the TWG has developed recommendations for resolving border issues).

into the Upper 700 MHz band.”<sup>14</sup> Because a 6+6 band plan provides greater spectral efficiencies, the TWG anticipates that such international negotiations will only be facilitated by adoption of such a plan.<sup>15</sup> Similarly, Ericsson notes, a channel plan with Mexico has not yet been finalized; consequently, any modifications to the existing band plan can be easily incorporated into ongoing negotiations with Mexico.<sup>16</sup> Thus, Lucent believes that international coordination issues do not pose an insurmountable obstacle to adoption of a 6+6 band plan.

## **II. THE COMMISSION SHOULD REFRAIN FROM RECONFIGURING THE COMMERCIAL C AND D BLOCKS IN THE 700 MHz BAND**

Lucent urges the Commission to refrain from adopting a 700 MHz band plan that requires any changes to the C & D Blocks. As an initial matter, the record does not contain any evidence that such changes are required in order to realize the benefits of a 6+6 band plan. As noted above and in its PS700 Comments, Lucent believes that a 6+6 band plan offers significant advantages in terms of spectral efficiency and deployment of broadband technologies over the current 3+6+3 band. These benefits are readily achievable without modifying the C & D Blocks.<sup>17</sup>

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<sup>14</sup> *See* TWG Report, at 16-17.

<sup>15</sup> *Id.*

<sup>16</sup> *See* Ericsson Comments, at 14.

<sup>17</sup> *See* Ericsson Comments, at 6-7 (stating that FCC can achieve spectrum efficiencies and maximize broadband use with relatively minor modifications to the 700 MHz band and no modifications to the C & D Blocks are required).

By contrast, modifying the C & D Blocks at this time has several drawbacks. For example, as Ericsson notes, any changes to the existing 700 MHz commercial band plan will disrupt the deployment of commercial products and services.<sup>18</sup> Even commenters favoring changes to the C & D Blocks recognize that such changes may have a negative impact on existing 700 MHz operations.<sup>19</sup> Most importantly, however, Lucent agrees with commenters that any revisions to the C & D Blocks at this late juncture will have a negative affect on the Commission's ability to meet its statutory deadline for auctioning 700 MHz spectrum recovered from television broadcasters as a result of the digital transition.<sup>20</sup>

The Commission is obligated to commence an auction of recovered spectrum by January 28, 2008 and to complete this auction by June 30, 2008.<sup>21</sup> Spectrum

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<sup>18</sup> *See id.*, at 12-13.

<sup>19</sup> *See* Motorola Comments, at 13 (“[I]t should be noted that relocating the Upper 700 MHz C-block to spectrum immediately adjacent to Lower 700 MHz licensees could subject stations to higher levels of out-of-band emissions given the higher power levels permitted in the Lower 700 MHz band.”).

<sup>20</sup> *See, e.g.*, Comments of Verizon Wireless, at 4-5 (stating that the Commission should not make any changes to the 700 MHz band plan that will affect its ability to meet the statutory auction deadline, *e.g.*, any changes to the guard band rules should not also reconfigure the 700 MHz band in a manner that would substantially change the configuration of the 30 MHz of commercial spectrum that is planned for auction); CTIA Comments, at 2-3 (urging the Commission to resolve the instant proceeding quickly in order to meet the statutory deadline).

<sup>21</sup> *See* Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006). Although Congress required the spectrum auction to be completed no later than June 30, 2008, there is no statutory bar preventing the Commission from holding the auction significantly earlier than this statutory deadline and Lucent encourages the Commission to do so. The 700 MHz C & D Blocks are highly valuable commercial spectrum due to the spectrum's strong propagation



auctions involve considerable planning, both by participants and the Commission.<sup>22</sup> For example, potential auction participants must develop business plans and attract funds to purchase auctioned spectrum. Similarly, prior to commencing an auction, the Commission must establish rules for that auction and provide the public with an opportunity to comment on such rules. These tasks are resource-intensive and cannot be quickly accomplished. It is not clear that the Commission can revise the C & D Blocks at this late date and still meet its legislatively imposed deadline for the Upper 700 MHz auction which is scheduled to begin in less than 15 months.

### III. CONCLUSION

For the reasons set forth herein, Lucent respectfully requests the Commission to consider consolidating and separating public safety narrowband channels and data channels (*i.e.*, a 6+6 band plan) to reduce the amount of spectrum allocated to guard bands and permit the consideration of alternate broadband technologies. As demonstrated by comments filed in the instant proceeding, the benefits of a 6+6 reconfiguration outweigh any detriment to public safety entities caused by such a reconfiguration. Lucent further urges the

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characteristics. Accordingly, substantial public interest benefits can be gained by holding the spectrum auction as early as feasible, especially in light of the increasing uptake of 3G services by consumers.

<sup>22</sup> *See* Radiofone Comments, at 3 (“Spectrum auctions require considerable time and expense, and involve the making of choices and formulation of business plans to the exclusion of other courses of action.”).

Commission to refrain from making any changes to the commercial portions of the 700 MHz band plan because such changes

likely will prevent the Commission from satisfying its statutory obligation to auction recovered 700 MHz spectrum by 2008.

Respectfully Submitted,

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